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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/475,385 12/30/99 GHOSAL

R 3600-011-01

EXAMINER

IM22/0522

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ART UNIT

PAPER NUMBER

1724

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05/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/475,385

Applicant(s)

GHOSAL ET AL.

Examiner

Frank M. Lawrence

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 1999.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-25 and 28-37 is/are pending in the application.
- 4a) Of the above claim(s) 28-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claims 18-25 and 28-37 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☒ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 18-25, drawn to a method to adsorb an adsorbate with a modified carbonaceous material, classified in class 95, subclass 141.
 - II. Claims 28-37, drawn to a catalyst comprising a modified carbonaceous material, classified in class 502, subclass 150.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product as claimed can be used in a materially different process of using that product such as in use in plastic compositions, aqueous inks and rubber compositions.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Mr. Luke A. Kilyk on March 23, 2001 a provisional election was made with traverse to prosecute the invention of Group 1, claims 18-25. Affirmation of this election must be made by applicant in replying to this Office action. Claims

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28-37 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

6. It is suggested that the title be amended to reflect the elected invention.

Information Disclosure Statement

The information disclosure statement filed in this application has been noted. In view of the volume of materials cited, it has not been reviewed in detail by this examiner. It appears that at least a great majority of the references have been cited in other applications by the assignee but do not deal with adsorbents or catalysts as in the instant claims. Consistent with MPEP 2004 (13), applicant should point out which of these references are particularly relevant to the instant claimed invention. See also *Black and Decker Inc v. Hoover Service Center* 20 USPQ2d 1612 (1617), *Rohm & Hass v. Crystal Chemical Co.* 220 USPQ 289 (302) and *Penn Yan Boats v. Sea Lark Boats Inc.* 175 USPQ 260. Also, copies of the relevant pages, sections, claims and drawings of the cited US Patent Applications should be provided because applications are not always available to the examiner.

Oath/Declaration

7. This application presents a claim for subject matter not originally claimed or embraced in the statement of the invention. Claim 18 recites a new limitation submitted with a preliminary

amendment. A supplemental oath or declaration is required under 37 CFR 1.67. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

Specification

8. The disclosure is objected to because of the following informalities: The application appears to be a Division of US Patent Application 08/663,709, however no reference is made to the parent application in the declaration, transmittal or specification. Box 4b on the transmittal is marked, however box 17 is left empty. References to US Applications on page 7 of the specification should be updated to reflect the current status of each.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 18, 19, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Belmont (5,554,739; col. 1, lines 16-22 and 52-57; col. 2, lines 23-32; col. 5, line 66 to col. 7, line 36; claims 1, 5, 15).

11. Belmont ('739) teaches a modified activated carbon that can be used as an adsorbent comprising an organic alkyl or aromatic group attached to the carbon. The organic group can be a hydrophilic (polar) group such as an unsubstituted sulfophenyl salt or a phenyl amine.

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12. Claims 18, 19, 22, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutt, Jr. (4,528,281; col. 1, lines 35-44; col. 2, lines 23-31; col. 3, lines 29-38; col. 5, lines 24-43; col. 7, lines 53-64; col. 8, lines 5-6; claims 1, 2).

13. Sutt, Jr. ('281) teaches a carbon molecular sieve for selectively adsorbing gases or liquids including oxygen, carbon dioxide, ammonia, argon, methane and hydrogen sulfide, comprising an activated carbon substrate having a polymer impregnated on its surface by a coating process. The polymer can comprise polar alkyl and aromatic groups such as phenols and cyclic polyesters made from alkyl monomers.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Belmont ('739). Belmont ('739) discloses all of the limitations of the claim as discussed above except that the sulfophenol salt is a sodium, lithium or potassium salt. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a sodium, lithium, or potassium salt of a sulfophenol group in order to provide a group that is common, plentiful and stable while still providing the desired hydrophilic (polar) effects.

16. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutt, Jr. ('281) in view of Tanaka et al. (3,960,771; abstract; col. 4, line 52 to col. 5, line 31). Sutt, Jr. discloses all of the limitations of the claims except that water is the adsorbate. Tanaka et al. ('771) discloses

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an activated carbon coated with a phenol hydrophilic group for adsorbing water molecules as well as odor causing gasses such as ammonia. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a hydrophilically modified activated carbon material to adsorb water in order to provide an adsorbent that is abundant and inexpensive (activated carbon) to separate water vapor molecules from an air stream as well as other pollutants that are typically adsorbed, eliminating the need for a separate desiccant such as silica gel.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The reference to Oikawa et al. (4,831,011; abstract; col. 1, lines 21-30) discloses a hydrophilically modified activated carbon for adsorbing ammonia and other gasses. The reference to Lee et al. (5,935,436; abstract; col. 5, lines 7-43) discloses an adsorption process using activated carbon having a hydrophilic coating. The reference to Abe (5,238,888; abstract; col. 3, lines 46-62) discloses an activated carbon molecular sieve for adsorbing nitrogen and oxygen after undergoing surface treatment with toluene or hexane plasma. The reference to the Japanese abstract (JP 05264415 A) discloses a radioactive adsorbent activated carbon having polyethyleneimine added into the carbon. The reference to Mimori et al. (5,707,922; abstract; col. 4, lines 51-56) discloses an activated carbon adsorbent having polar functional groups attached to it. The reference to Boes et al. (5,972,826; claims 1, 5, 9, 10) discloses a densified carbon black material for adsorbing methane, nitrogen and carbon dioxide.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is 703-305-0585. The examiner can normally be reached on Mon-Thurs 7:30-5:00; alternate Fridays 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Simmons can be reached on 703-305-1972. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

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May 16, 2001


David A. Simmons
Supervisory Patent Examiner
Technology Center 1700